

**NATURAL RESOURCES CONSERVATION SERVICE  
OPERATION AND MAINTENANCE PLAN FOR  
IRRIGATION WATER MANAGEMENT**

**CODE 449**

Name \_\_\_\_\_

Ident. No. \_\_\_\_\_

Legal Desc. \_\_\_\_\_

County \_\_\_\_\_

Irrigation water management that is properly implemented is an asset to your farm. This management system was designed to manage soil moisture; to optimize the use of available water supplies; to minimize irrigation-induced soil erosion; to decrease non-point source pollution of surface and groundwater resources; to manage salts in the crop root zone; to manage air, soil, or plant micro-climate; for proper and safe chemigation or fertigation; to improve air quality by managing soil moisture to reduce particulate matter movement; or to reduce energy use. The estimated life span of this management system is at least 1 year. The life of this management system can be ensured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation and maintenance for satisfactory performance. Here are some recommendations to help you develop a good operation and maintenance program.

**General Recommendations**

- Avoid spills from agriculture chemicals, fuels, and lubricants to minimize potential pollution hazards to ground and surface water.
- Develop a salinity management plan to leach for salinity control if electrical conductivity of the irrigation water or soil water exceeds plant tolerance for your yield and quality objectives.

- Inspect all measuring devices, valves, sprinkler heads, surface pipeline, and other mechanical parts of the system and repair/replace worn or damaged parts as needed. Always replace a worn or improperly functioning nozzle with a new nozzle of the same design size and type. Sprinkler heads operate efficiently and provide uniform application when they are plumb, in good operating condition, and operate at the planned pressure.
- Maintain all pumps, piping, valves, and electrical and mechanical equipment in accordance with the manufacturer's recommendations.
- Check and clean screens and filters as necessary to prevent unnecessary hydraulic friction loss and to maintain water flow necessary for efficient pump operation.
- Protect pumping plant and all associated electrical and mechanical controls from damage by livestock, rodents, insects, heat, water, lightning, sudden power failure, and sudden water source loss.
- Provide and maintain good surface drainage to prevent water ponding around pump and electrical equipment.
- Ensure all electrical/gas fittings are secure and safe. Always replace worn or excessively weathered electric cables and wires and gas tubing and fittings when first noticed.
- Check periodically for undesirable stray currents and leaks.

- Drain pipelines and valves and secure and protect all movable equipment (for example, wheel lines) during non-seasonal use.
- Track the amount of soil water in the crop root zone.
- Estimate crop water use by using an appropriate scheduling technique. The Natural Resources Conservation Service (NRCS) can assist in the selection of an irrigation scheduling program.
- Adjust the volume, application rate, and frequency of water application (based on changes in crop evapotranspiration rates and soil intake rates) to achieve the intended purpose(s).

### **Specific Recommendations for This Project**

**If you need additional technical assistance to implement the operation and maintenance plan for this structure, contact the Natural Resources Conservation Service (NRCS) at your local USDA Service Center (listed in the telephone book under United States Government)**